

Notice of Allowability	Application No.	Applicant(s)	
	09/926,673	OKUNO ET AL.	
	Examiner	Art Unit	
	Vijay B. Chawan	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicants correspondence filed 12/19/05.
2. ☒ The allowed claim(s) is/are 16-30.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|--|--|

Vijay B. Chawan

**VIJAY CHAWAN
PRIMARY EXAMINER**

DETAILED ACTION

Allowable Subject Matter

1. Claims 16-30 are allowed.
2. The following is an examiner's statement of reasons for allowance: Claims 16-30 are allowable over cited prior art. Applicants teach a sound source identifying and separating apparatus and method comprising a sound collecting means including a pair of sound collecting microphones juxtaposed with each other across a preselected spacing and opposed to a plurality of sound sources, said two microphones each individually capturing mixed sounds from said sound sources, an imaging means and/or sensing means, said imaging means being adapted to consecutively image objects that can be sound sources, said sensing means sensing directions in which said objects possibly being said sound sources are located, a sound processing means for determining the directions of all said sound sources based on sound information for a difference between phases and a difference between intensities which each of said mixed sound from said sound sources has when captured by said two sound collecting microphones respectively, an image processing means for determining the direction of each of said objects possibly being said sound sources, from information for image pictures imaged by said imaging means and/or directional information for each of said objects sensed by said sensing means, directional filters, and a control means for controlling operations of said sound collecting means, said imaging means and/or said sensing means, said image processing means, and said sound processing means, wherein the operations of said sound collecting means, said imaging means and/or said

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sensing means, said sensing means, and said sound processing means, are so controlled by said control means that said sound processing means predetermines rough directions of said sound sources from information for said sound captured by said sound collecting means, and said image processing means determines the direction of each of said objects possibly being said sound sources within a range defined by said predetermined rough directions, or, said image processing means predetermines directions of said sound sources only from information for image pictures imaged by said imaging means and/or directional information for each of said objects sensed by said sensing means, and said sound processing means determines the directions of said sound sources within a range of angles defined by said predetermined directions, or, said sound processing means predetermines rough directions of said sound sources only from information for said sounds captured by said sound collecting means, and said sound processing means selects said directional filters corresponding to said predetermined directions of said sound sources whereby it is made possible to identify the directions the directions of all said sound sources and to separate them from one another even if neighboring ones of them lie close by. The cited prior art alone or in combination does not fairly suggest or disclose the claimed combination of features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vijay B. Chawan whose telephone number is (571) 272-7601. The examiner can normally be reached on Monday Through Friday 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Vijay B. Chawan
Primary Examiner
Art Unit 2654

vbc
1/9/06

**VIJAY CHAWAN
PRIMARY EXAMINER**